

Beach Regulatory Advisory Committee Kick Off Meeting

May 14, 2014

Shoreline & Waterway Management Section



Geomorphology 101

Delaware has several types of shorelines

- **Estuarine Barrier Beaches** – Along the Delaware Bay
- **Spit System** – Cape Henlopen
- **Beach-Headland Coast** – Henlopen Acres, Rehoboth Beach, Bethany Beach
- **Barrier Beach/Inland Bay System** – Dewey Beach, Indian Beach, South Bethany and Fenwick Island



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Erosion rates:

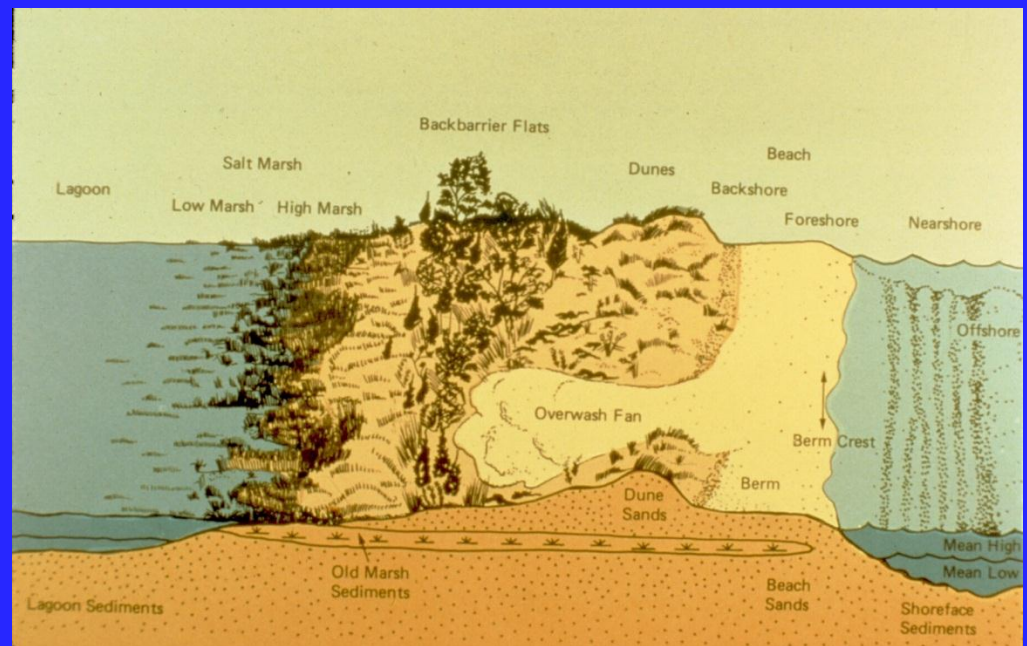
- Ocean coast have averaged between 1' to 5' per year
- Lower bay coast rates are under 5' per year



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A natural barrier beach system consists of a number of interrelated environments, that are created by and continually adapt to the physical forces of the bay or ocean environment. Overtime, the entire system maintains itself.

However, an stabilized barrier beach system, altered by human existence takes a different shape.



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Dunes

First Line of Defense

Development along the coastline has resulted in the need for a protective beach and dune system.



The State Government recognized this along with the fact that Delaware's beaches are a major asset to the economy of the entire State and took measures to protect and preserve them.



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Hurricane Sandy

- \$65 Billion in damages and economic losses
- 159 fatalities
- 8.5 million customers lost power
- 650,000 homes damaged or destroyed
- 13 States with major disaster declarations
- Most damaged or destroyed homes were from 30 + year old outdated flood maps and were non-pile elevated buildings along the coast



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The Storm of the Century

March 6-8, 1962



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The Storm of the Century

March 6-8, 1962

- Storm lasted 3 days, 5 high tide cycles, spring tides
- Winds reached 60 mph
- Wave heights were recorded at 40 feet
- Storm surge was 8.1 NGVD
- Flooding was as deep as 5 feet in some areas
- Damages were estimated to be worth \$16,660,000



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The History of the Beach Preservation Act and the Regulations Governing Beach Protection and the Use of Beaches



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Beach Preservation Act in 1972

Title 7, Chapter 68

General Assembly recognized that Delaware's beaches were rapidly deteriorating due to a combination of both natural processes and continual encroachment of man.

Declared the beaches to be “valuable natural features which provides recreational opportunities and storm protection for persons and property”...



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“Development and habitation of the beaches must be done with due consideration given to the natural forces impacting upon them and the dynamic nature of those natural features”

Our Charge

To enhance, preserve and protect the public and private beaches of the State.

To mitigate beach erosion and minimize storm damage

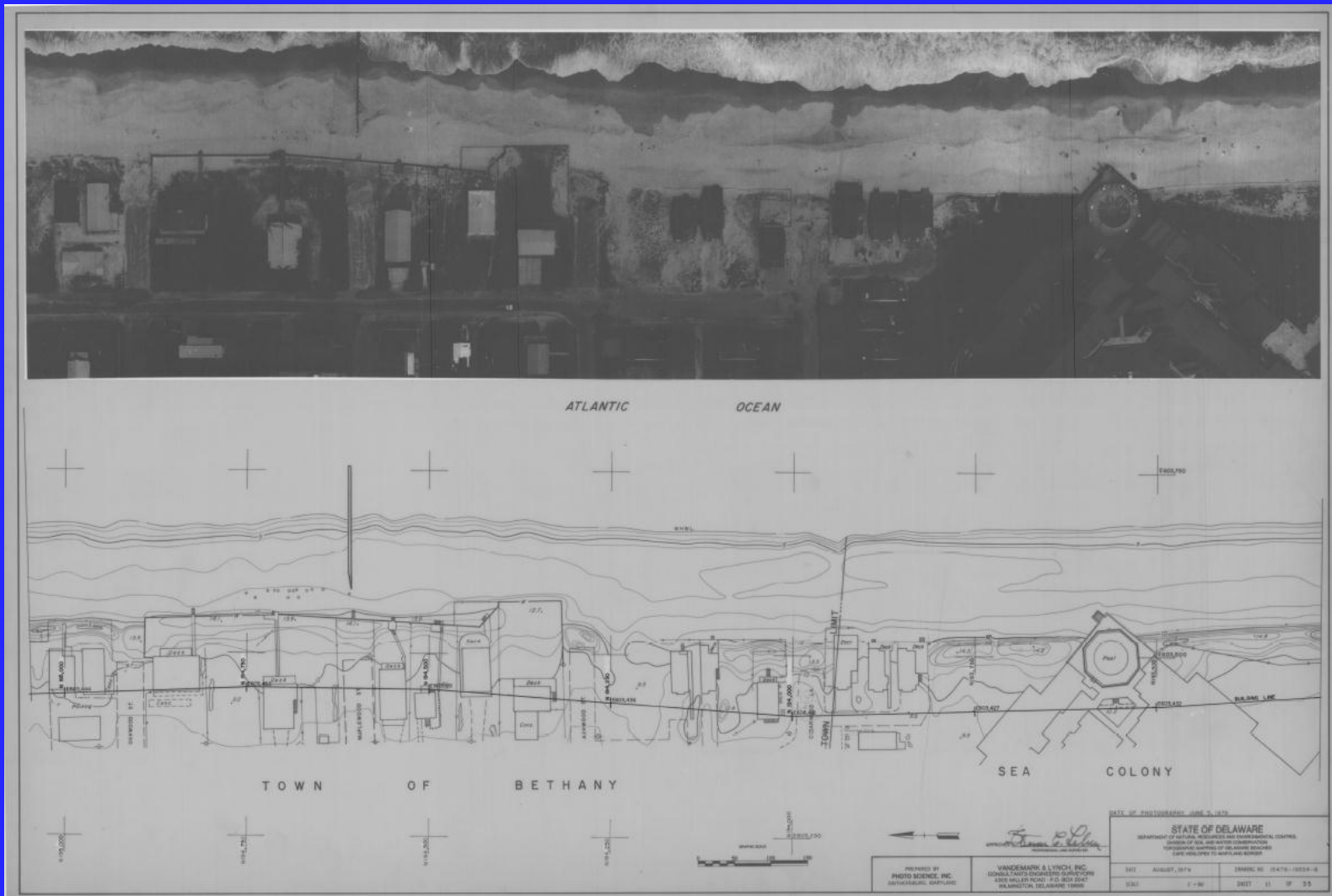


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- **July 26, 1973** - Adopted interim regulations
- **May 6, 1974** -Regulations Governing Beach Protection and the Use of Beaches
- **August 13, 1981**-Regulations were revised, which incorporated the mapped building line
- **December 27, 1983** - Current regulations



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1974 & 1983

Beach - means that portion of the shore of any body of water which extends from the mean high water mark inland one thousand feet, or to a roadway for automobiles, whichever is closer.



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July 17, 1984

Amendment to the Beach Preservation Act :

- redefined “Beach”
- added definitions
- incorporated the building line concept of regulating
- defined the power to enhance, preserve, and protect private beaches to include the prevention and repair of damage from erosion in an emergency
- revised the penalty provisions



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April 30, 1996

Amendment to the Beach Preservation Act:

Amendment made clear that in commercialized areas of Rehoboth Beach and Bethany Beach which contain no natural dune system, the building line shall be consistent with the line of construction establish by existing structures i.e. the boardwalk.



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June 27, 1996

Amendment to the Beach Preservation Act:

Subsection 6805(d)

“If any structure proposed to be built in whole or in part seaward of the building line could reasonably be reduced in size or otherwise altered in order to eliminate or diminish the amount of encroachment over the building line, the Department shall require such reduction or alteration as a condition of granting the permit or letter of approval.”

This led to the 4-step process.



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June 15, 2006

An Amendment to the Beach Preservation Act:

- Removed the perimeter of the Rehoboth, Indian River and Assawoman Bays from the law
- Modified the definition of Building Line (NGVD to unspecified datum)
- Allows for rebuilding within old footprint where State and Federal agencies are constructing and maintaining dunes
- Defines “regulated area” and “substantial damage”
- “repairs” as a trigger to DNREC oversight is removed and property owners’ right to repair is clarified.



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June 18, 2006

An Amendment to the Beach Preservation Act:

Modified by changing the words “property” and “property’s” to “existing structure” and “existing structure’s” to make it clear that property owners will be allowed to maintain their existing buildings within their current dimensions, without fear that the structures will be reduced in size or relocated at some point in the future.



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New definitions in Beach Preservation Act that are not currently in the Regulations



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Regulated Area:

The specific area within the defined beach that the Department is directed to regulate construction to preserve dunes and to reduce property damage. The regulated areas shall be from the seaward edge of the beach to the landward edge of the third buildable lot in from the mean high water line.

- Reduces the number of properties regulated in areas such as Rehoboth, Dewey, Broadkill
- Increases number of regulated properties in most Delaware Bay beaches, Fenwick Island, Bethany and South Bethany



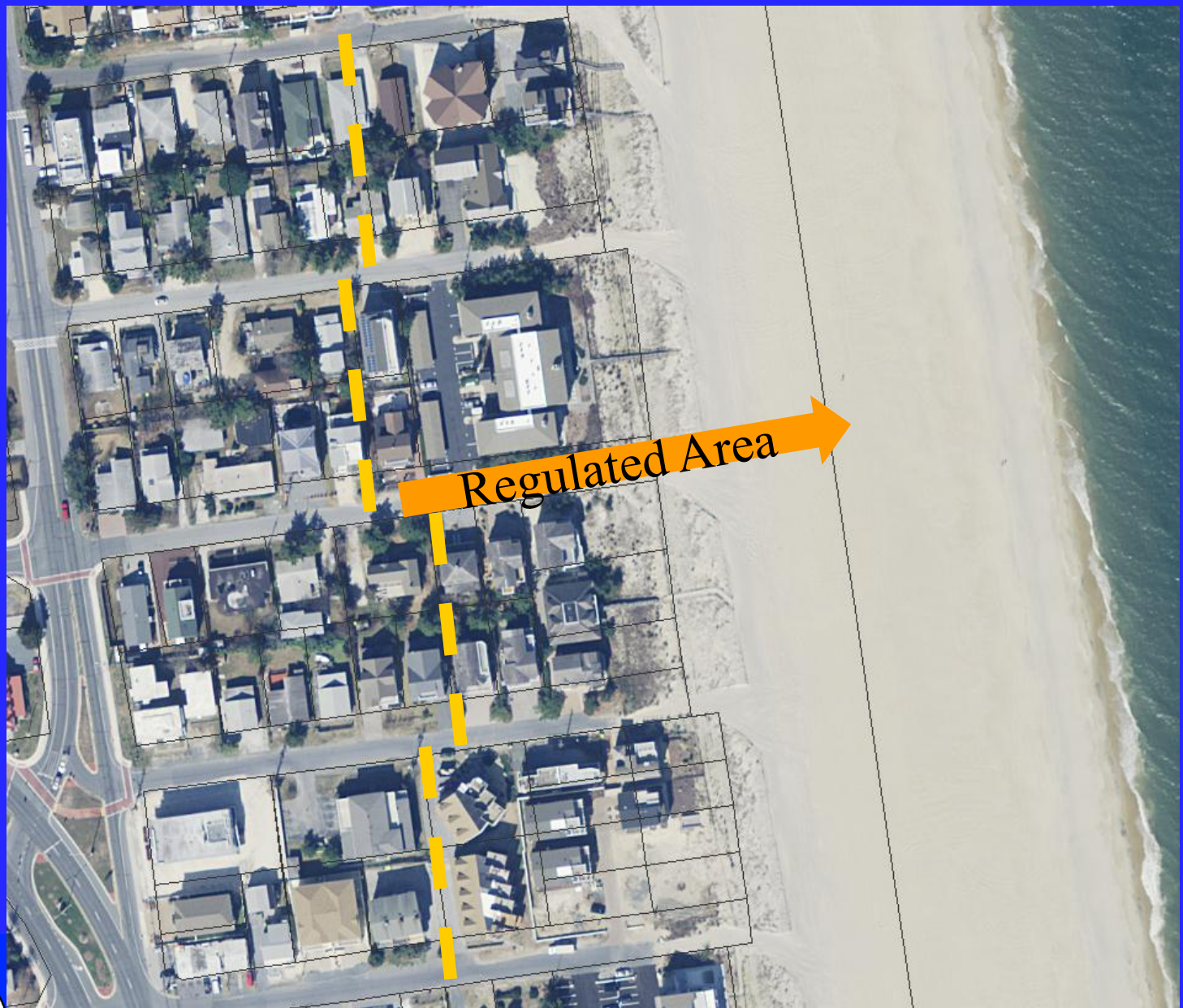
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Regulated Area



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Substantial Damage:

Means the damage or destruction of any structure by an act of God to the extend that, in the judgment of the Department, 75% or more of the original structure, or if a building, more than 50% of the original foundation pilings, are unsuitable for incorporation into reconstruction of the structure

- Replaces “complete destruction” – except substitutes “by an act of God” for “by any means whatsoever”
- Prompts us to define “substantial improvement” in proposed regulations

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Within the definition of Building Line:

“On those ocean and Delaware Bay front lots, where existing buildings are either partially or completely seaward of the building line, the Department is directed to consider beach nourishment work that has enhanced the beach and dune when determining the location and size of reconstruction of those existing buildings if they are destroyed by acts of God or other accidental events. Furthermore, in any such case, property owners shall be permitted to rebuild in the same footprint where federal or state agencies have constructed and continue to maintain a beach and dune that conforms to **coastal engineering standards of storm protection.**”



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Coastal Engineering Standards of Storm Protection:

?



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History of our last effort to revise the Regulations



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- Start Action Notice: May 21, 2003
- Three Workshops:
 - July 1, 2003 in Dover
 - July 16, 2003 in Rehoboth
 - March 16, 2005 in Rehoboth
- Published to the Register: November 1, 2005
- Two Public Hearings:
 - December 14, 2005
 - January 13, 2006
- Secretary Hughes withdrew the proposed regulations on October 12, 2006



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Formerly Proposed Maps

- New (at the time) 2002 orthophotography was taken
- The line was remapped in 2003
- Was proposed with revised regulations
- Regulations were withdrawn due to misunderstanding, confusion and outcry from the public



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Concerns and Misconceptions

- Definition of Beach
- Regulation of Inland Bays
- Building Line
- 4 Step Process
- Maintenance



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Sections of Interest



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- Building line redefined (remapped?)
- 4-step process
- Cantilevered decks (average)
- Boats on dune
- Addition of elevation above BFE seaward of BL
- Temporary structures
- Construction standards



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The Building Line



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Prior to 1983

The Building Line was determined by a site visit by a Department representative who found the landward toe of the dune and designated it as the line past which no construction shall occur



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1983

Building Line - means the line generally paralleling the coast, set forth on maps prepared by the Division with reference to the National Geodetic Vertical Datum (NGVD) and the Delaware State Plane Coordinate System, and based upon information provided by topographic survey. The Building Line is located as follows:



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- a) Along beaches extending from the Delaware/Maryland line to the tip of Cape Henlopen - 100 feet landward of the adjusted seawardmost 10-foot elevation contour above NGVD;
- b) Along beaches extending from the tip of Cape Henlopen to the southernmost limit of Primehook Beach - 100 feet landward of the adjusted seawardmost 7-foot elevation contour above NGVD;
- c) Along beaches extending from the southernmost limit of Primehook Beach to the Old Marina Canal north of Pickering Beach - 75 feet landward of the adjusted seawardmost 7-foot elevation contour above NGVD; or at the landward limits of the Beach, as defined in these Regulations, whichever is most seaward;
- d) or at the landward limits of the Beach, as defined in these Regulations, whichever is most seaward.



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After the 2006 amendment to the Beach Preservation Act:

Building Line - means a line generally paralleling the coast, seaward of which construction of any kind shall be prohibited without a permit or letter of approval from the Department. The building line shall be set forth on maps prepared by the Department with reference to a vertical datum commonly used by land surveyors, the Delaware State Plane Coordinate System and topographical surveys. Within the corporate limits of Rehoboth Beach and Bethany Beach, in commercial areas containing boardwalks and where no natural dune exists, the building line shall be along the westerly edge of the boardwalk. In those cases where the mapped building line either transects or is landward of lots that, in turn, are landward of lots with existing habitable structures, the building line will not be used to modify either location or dimension of buildings on the more landward lot.



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On those ocean and Delaware Bay front lots, where existing buildings are either partially or completely seaward of the building line, the Department is directed to consider beach nourishment work that has enhanced the beach and dune when determining the location and size of reconstruction of those existing buildings if they are destroyed by acts of God or other accidental events. Furthermore, in any such case, property owners shall be permitted to rebuild in the same footprint where federal or state agencies have constructed and continue to maintain a beach and dune that conforms to coastal engineering standards of storm protection.



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Building Line Maps

- Topographic surveys were taken in 1979 in developed areas along the Delaware Bay and Atlantic Ocean Coast.
- The 7' and 10' seaward elevation contours were found and the line was mapped 75' and 100' landward.
- The Building Line maps were incorporated into the Regulations in 1981 and have been used ever since



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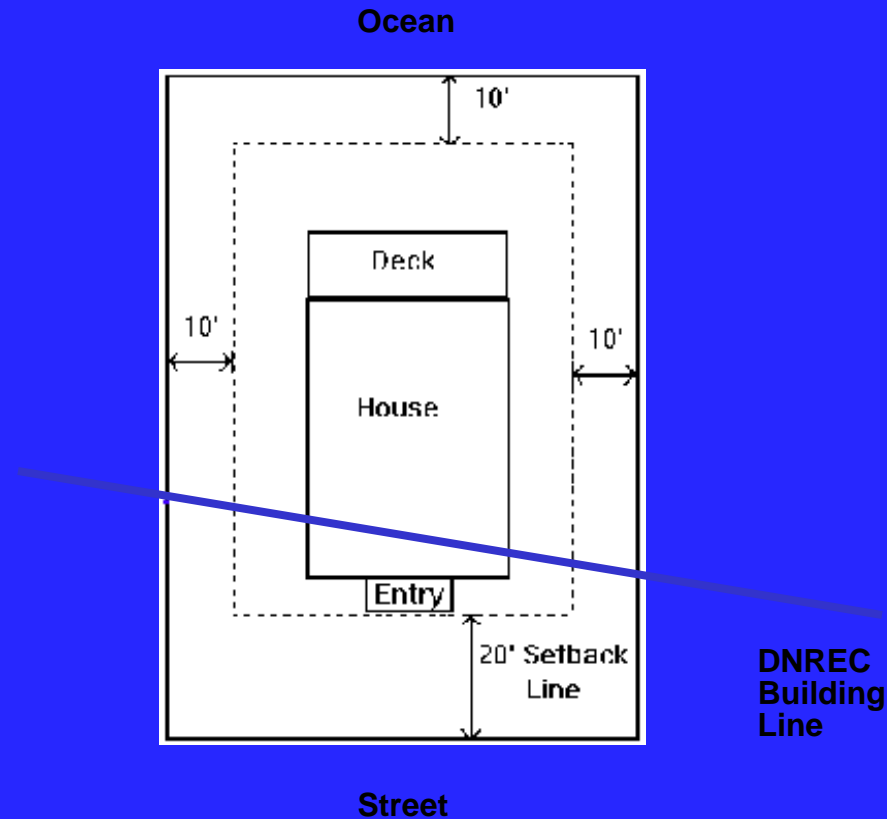
4 Step Process

- Prompted by Amendment to Beach Preservation Act in 1996 by requiring “reasonably reduced in size”
- Covered by Section 3.1.1.2 of the Regulations Governing Beach Protection and the Use of Beaches
- Currently, it is a policy that we have been enforcing since 1996
- 47 homes constructed using this design template
- Has been found to be an effective tool in moving all construction as far landward as possible



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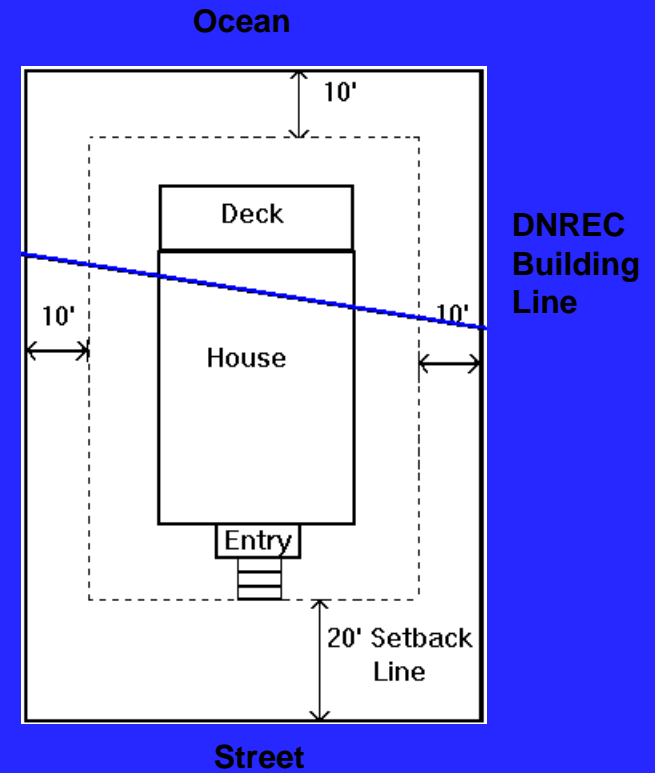
The size of the area of the parcel of real property located landward of the Building Line is inadequate for construction.



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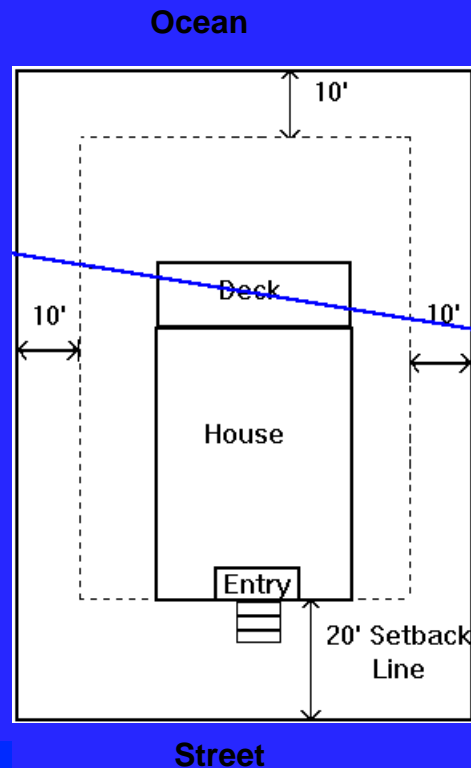
The dimensions and location of the structure cannot be modified or redesigned in order to have the final structure or portion thereof located either less seaward or completely landward of the Building Line.

4 Step Process:

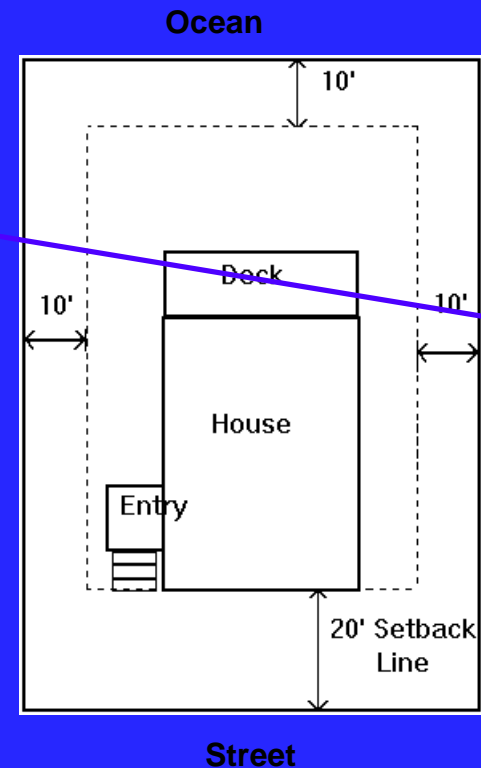


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Step 1: Construction must begin at setbacks established by the County or Town. Porches, decks and entranceways are not permitted along that wall of the building unless recessed into the exterior wall or alongside the structure.

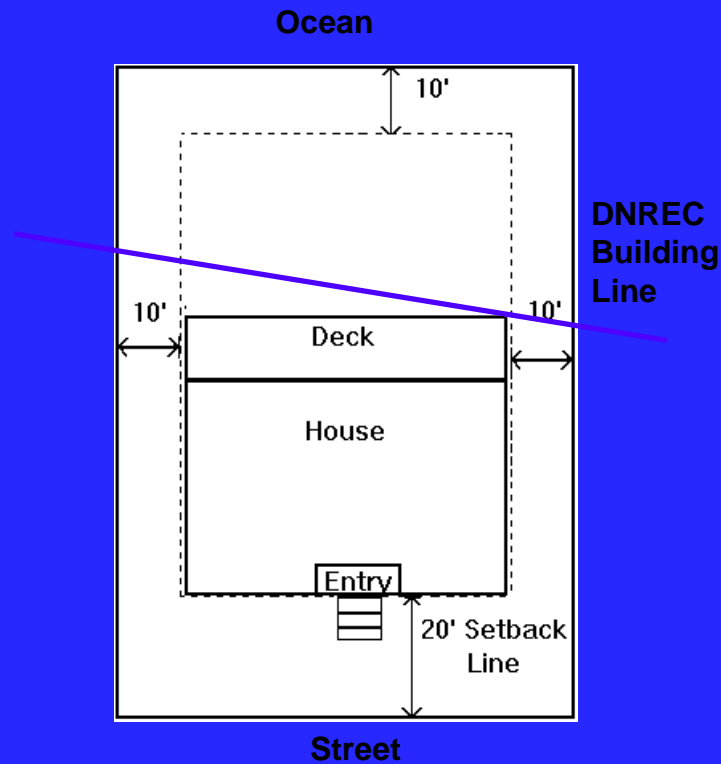


**DNREC
Building
Line**



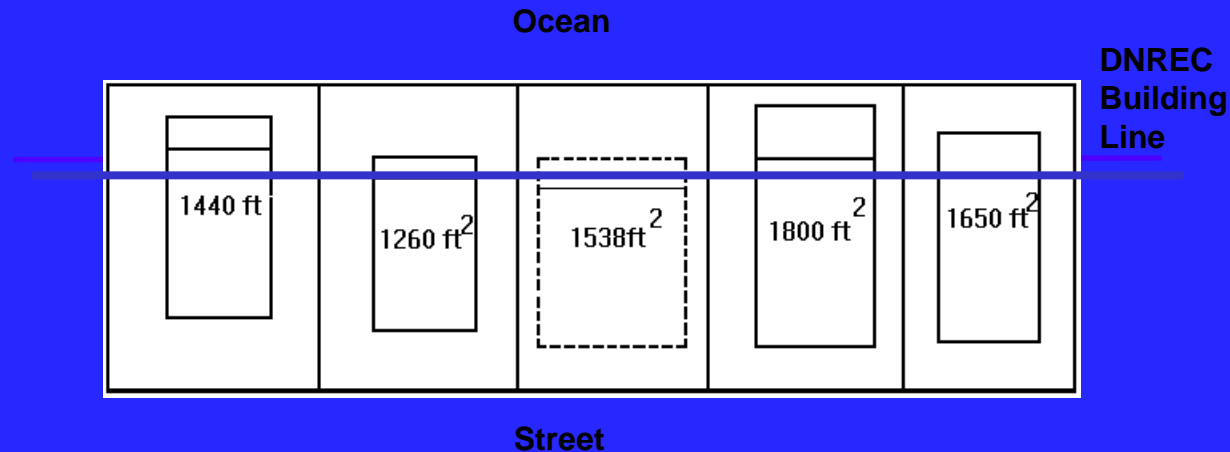
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Step 2: The structure must occupy all available area between the side yard setbacks.



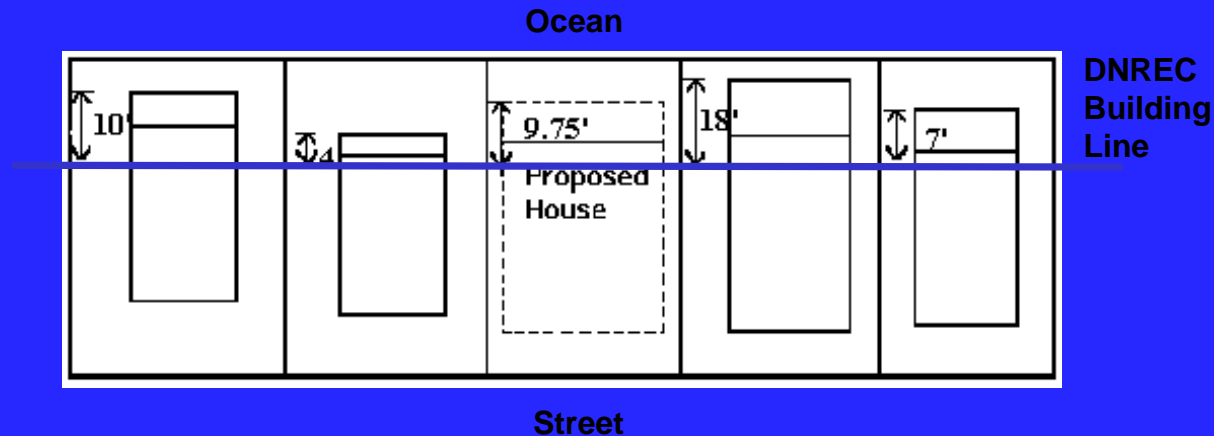
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Step 3: The square footage of the footprint of the structure (living area only, not including open porches and decks) shall not exceed the average square footage that exists among adjacent structures within the smallest subset of lots.



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Step 4: Seaward penetration over the Building Line shall not exceed the average encroachment that exists among adjacent structures within the smallest subset of lots. Any decks constructed along with the structure must meet the requirements of Section 6.1.8.



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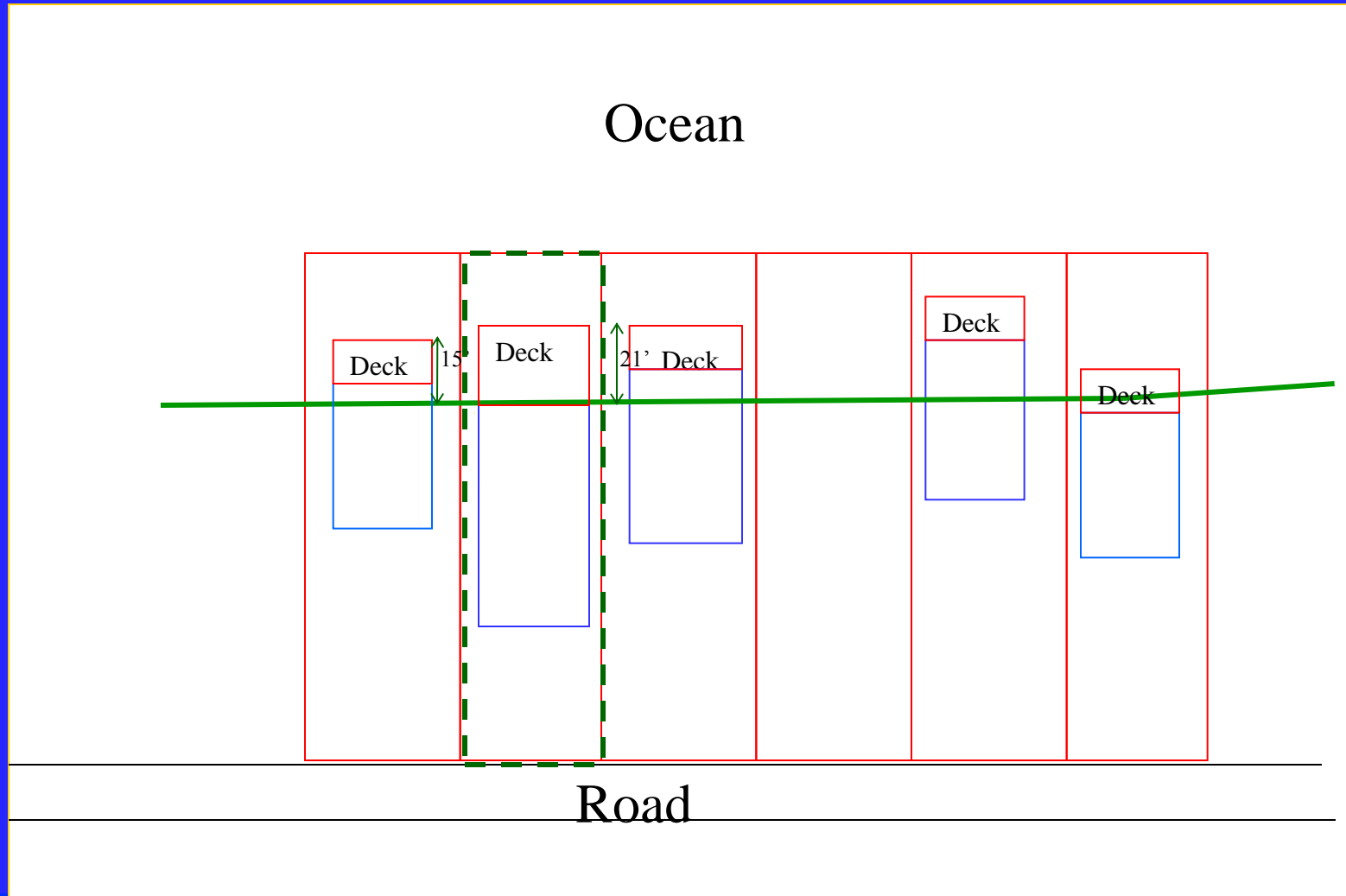
Cantilevered Deck Issues

- Currently, a deck may be constructed seaward of the DNREC Building Line as far seaward as the immediately adjacent neighbor
- Average within the block may be preferable
- Enclosure underneath
- Conversion to living space



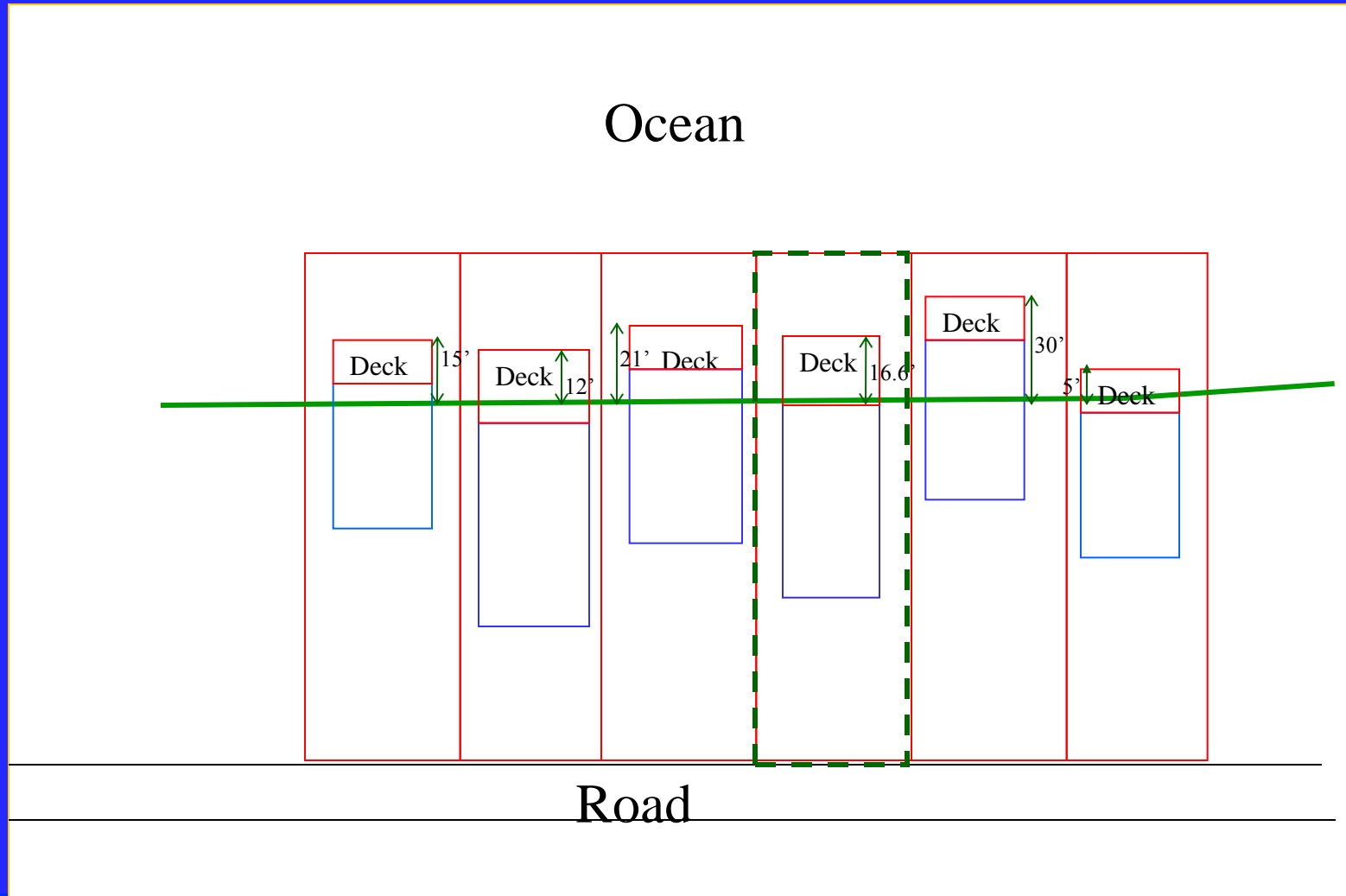
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Current Cantilevered Deck Requirement



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Proposed Cantilevered Deck Requirement



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Boats on Dunes

Proposed Prohibition:

Transport or storage of any type of boat across or on the primary dune on any State-owned or maintained beach except at locations approved or permitted by the Department



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In an effort to minimize the damage and debris that occurs as a result of the construction of enclosures during coastal storms, limit the amount of construction that occurs below the Base Flood Elevation

Seaward of the Building Line

In a V-zone

Vs.

Base Flood Elevation

Base Flood Elevation



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Temporary Structures

- Not addressed in current regulations
- Have not always required approval
- Proposed regulations will require Letter of Approval with conditions of seasonal removal and removal during storms
- Structures must be designed for easy removal from the beach



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Construction Standards

- Based on the Coastal Vulnerability and Construction Standards Study conducted in September 1997
- Divides Beach Area into four (4) Hazard Zones
 - Beach Zone
 - Erosion/Wave Zone
 - Wave/Overwash Zone
 - Flood Zone
- Depending on what zone the property is located, certain construction standards will apply



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Questions?



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